

**REMARKS****I. General**

Claims 1-4, 6-34, 36-47 and 62-63 are pending in this application.

- Claims 1, 6, 10-13, 22, 33, 36, 37, 42-44, and 47 are rejected under 35 U.S.C. § 102(e) as being unpatentable in view of United States Patent No. 6,704,579 to Woodhead et al. (hereinafter “Woodhead”).
- Claims 2 and 38 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Woodhead in view of U.S. Patent Publication 2004/0203714 A1 to Van Lieshout et al. (hereinafter “Van Lieshout”).
- Claims 3 and 39 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Woodhead in view of U.S. Patent Publication 2002/0196749 A1 to Eyuboglu et al. (hereinafter “Eyuboglu”).
- Claims 4 and 40 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Woodhead in view of U.S. Patent Publication 2002/0174441 A1 to Marin et al. (hereinafter “Marin”).
- Claims 7, 8, 62, and 63 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Woodhead in view of U.S. Patent 6,275,990 B1 to Dapper et al. (hereinafter “Dapper”).
- Claims 9, 14, 34, and 45 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Woodhead in view of U.S. Patent 6,865,170 B1 to Zendle (hereinafter “Zendle”).
- Claims 17-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Woodhead in view of U.S. Patent Publication 2002/0126704 A1 to Cam et al. (hereinafter “Cam”).

- Claim 21 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Woodhead in view of Cam and further in view of U.S. Patent Publication 2003/0043738 A1 to Barsheshet (hereinafter “Barsheshet”).
- Claims 23-27 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Woodhead in view of Schilling (hereinafter “Schilling”).
- Claims 28-32 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Woodhead.
- Claims 41 and 46 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Woodhead in view of Barsheshet.

Applicant hereby traverses the rejections of record and requests reconsideration and withdrawal of such in view of the remarks contained herein.

## **II. Rejections Under 35 U.S.C. 102(e)**

Claims 1, 6, 10-13, 22, 33, 36, 37, 42-44, and 47 are rejected under 35 U.S.C. 102(e) as being anticipated by Woodhead. It is well settled that to anticipate a claim, the reference must teach every element of the claim. *See* M.P.E.P. § 2131. Moreover, in order for a prior art reference to be anticipatory under 35 U.S.C. § 102 with respect to a claim, “[t]he elements must be arranged as required by the claim.” *See* M.P.E.P. § 2131; *citing In re Bond*, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). Furthermore, in order for a prior art reference to be anticipatory under 35 U.S.C. § 102, “[t]he identical invention must be shown in as complete detail as is contained in the . . . claim.” *See* M.P.E.P. § 2131; *citing Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q.2d 1913 (Fed. Cir. 1989).

### **Independent Claims 1 and 33**

Independent claim 33 recites “providing a first signal processing subscriber subsystem providing only digital signal processing with respect to said subscriber data signal.” In the Current Action the Examiner points to Woodhead, at col. 8 line 24 – col. 9 line 40 and Figure 3, as satisfying this limitation. *See* Current Action, pg. 6. In doing so, the Examiner opines Woodhead’s outdoor unit (“ODU”) communicates with its indoor unit (“IDU”) “via a digital

FSK format meaning all the analog processing of data is completed by the outdoor unit 108 before data is sent to indoor unit 122.” *Id.* As an initial matter, Applicant respectfully points out that the Examiner apparently misunderstands Woodhead’s disclosure, and misapplies the same to Applicant’s claims. That is, as one of ordinary skill in the art knows, FSK modulation involves modulating digital information on a carrier (i.e., analog) wave and demodulating digital information from that analog wave. Specifically, during transmission a FSK modem modulates digital information onto an analog carrier wave and, during reception a FSK modem demodulates digital information from that analog carrier wave. Indeed, Woodhead’s disclosure is in complete agreement with such a scheme. For instance, at Fig. 3 Woodhead shows FSK modem 138 in indoor unit 122 (which the Examiner equates to the claimed first signal processing subscriber subsystem). Accordingly, Woodhead’s FSK modem 138 modulates and demodulates digital information using an analog carrier wave. Notably, Woodhead’s communication scheme is at odds with Applicant’s claimed invention, as further described at paragraphs [0028] (noting IDU 201 contains *only* those circuit components of an OFDM modem utilized with respect to digital processing of signals) and [0033] (describing the challenges associated with providing digital communication between the IDU and ODU, e.g., maintaining well-controlled timing relationships between ODU and IDU) of the current specification. As such, Applicant’s invention, as claimed and described in the specification, requires a different arrangement than what is described in Woodhead.

Moreover, at the Examiner’s citation, Woodhead’s IDU is described as performing both digital and analog processing. At col. 8 lines 39 - 43, Woodhead describes that FSK modem 138 sends “FSK modulated control messages from the IDU through the broadband cable 129, to the outdoor unit 108. A low band pass filter 139 is provided between the cable 129 and the FSK modem 138.” At col. 9 lines 14-19, Woodhead describes that the IDU’s “modulated data signal is then placed on a 140 MHz main signal 154 for . . . transmission to ODU 108. It should be realized that the data transmission along the 140 MHz main signal can occur simultaneously with the control message and response message data that is Frequency Shift Key modulated across the cable 129.” These excerpts make clear that Woodhead’s IDU 122 performs analog signal processing, not “only digital signal processing with respect to said subscriber data signal,” as set forth in the claim. For at least these reasons, Applicant requests withdrawal of the rejection of record.

Independent claim 33 also recites “coupling said first signal processing subscriber subsystem and said second signal processing subscriber subsystem using a digital link.” In the Current Action the Examiner points to Woodhead's cable 129 as satisfying the recited digital link. *See* Current Action, pg. 7. As discussed above, Woodhead's ODU and IDU each contain an FSK modem whereby FSK-modulated signals are transmitted therebetween. FSK modulation requires an analog carrier wave. As such, Woodhead does not disclose coupling a first and second subsystem using a digital link, as set forth in the claims. For at least these reasons, Applicant requests withdrawal of the rejection of record.

Independent claim 1 recites “a first digital interface” and “a second digital interface.” In the Current Action the Examiner points to Woodhead's cable 129 as satisfying the recited digital link. *See* Current Action, pg. 3. As discussed above, Woodhead's ODU and IDU each contain an FSK modem whereby FSK-modulated signals are transmitted therebetween. FSK modulation requires an analog carrier wave. As such, Woodhead does not disclose coupling a first and second subsystem using a digital link, as set forth in the claims. For at least these reasons, Applicant requests withdrawal of the rejection of record.

Independent claim 1 recites a first and second subscriber subsystem each “disposed at a subscriber location.” Independent claim 33 recites a similar limitation. In the Current Action the Examiner reiterates his attempt to satisfy the recited subscriber location by pointing to Woodhead's base station coverage area. In doing so, the Examiner opines that Woodhead's base station “inherently must be located at a subscriber location since subscribers must be within the base station's wireless range to be able to communicate wirelessly.” Applicant strongly disagrees. Applicant notes that the coverage area of a base station is understood by those of ordinary skill in the art as, for example, a “cell.” Further, one of ordinary skill in the art would understand that a cell is not the same as a subscriber location. A subscriber location may be at any number of locations within a cell. In any event, a base station is not required to be, and in all likelihood is not, at a subscriber location. *Also see* Woodhead at col. 6 lines 61-66 (describing that a cell is a coverage area that includes several CPE at *different* areas). According to the Examiner's rationale, a subscriber location could be construed as covering several square miles. This, of course, is nonsensical. Further, Applicant notes that Woodhead describes its base station as not being at a subscriber location. Indeed, Woodhead describes its base station as “centrally located *from* a plurality of customer sites.” *See* Woodhead at col. 5 lines 24-25. Further,

Woodhead expressly refers to its subscribers as “residential or business customers,” not base stations. *Id.* at col. 11 lines 30-40. Therefore, Applicant requests withdrawal of the rejection of record.

Dependent Claims 6, 10-13, 22, 36, 37, 42-44, and 47

Claims 6, 10-13, and 22 depend from claim 1, and claims 36, 37, 42-44, and 47 depend from claim 33, respectively. Each dependent claim inherits every limitation of the claim from which it depends. As shown above, Woodhead does not satisfy every limitation of claims 1 and 33. As such, claims 6, 10-13, 22, 36, 37, 42-44, and 47 are patentable at least by virtue of their dependency on claims 1 and 33. Moreover, the dependent claims set forth additional limitations not taught by Woodhead.

For example, claim 6 recites “wherein said first subscriber subsystem provides only digital processing of said subscriber data.” In the Current Action the Examiner points to Woodhead, at col. 8 line 24 – col. 9 line 40 and Figure 3, as satisfying this limitation. *See* Current Action, pg. 4. In doing so, the Examiner opines Woodhead’s outdoor unit communicates with its indoor unit “via a digital FSK format meaning all the analog processing of data is completed by the outdoor unit 108 before data is sent to indoor unit 122.” *Id.* As an initial matter, Applicant respectfully points out that the Examiner apparently misunderstands Woodhead’s disclosure, and misapplies the same to Applicant’s claims. That is, as one of ordinary skill in the art knows, FSK modulation involves modulating on a carrier (i.e., analog) wave and demodulating digital information from that analog wave. Specifically, during transmission a FSK modem modulates digital information onto an analog carrier wave and, during reception a FSK modem demodulates digital information from that analog carrier wave. Indeed, Woodhead’s disclosure is in complete agreement with such a scheme. For instance, at Fig. 3 Woodhead shows FSK modem 138 in indoor unit 122 (which the Examiner equates to the claimed first signal processing subscriber subsystem). Accordingly, Woodhead’s FSK modem 138 modulates and demodulates digital information using an analog carrier wave. Moreover, at the Examiner’s citation, Woodhead’s indoor unit is described as performing both digital and analog processing. At col. 8 lines 39 - 43, Woodhead describes that FSK modem 138 sends “FSK modulated control messages from the IDU through the broadband cable 129, to the outdoor unit 108. A low band pass filter 139 is provided between the cable 129 and the FSK

modem 138.” At col. 9 lines 14-19, Woodhead describes that the IDU’s “modulated data signal is then placed on a 140 MHz main signal 154 for . . . transmission to ODU 108. It should be realized that the data transmission along the 140 MHz main signal can occur simultaneously with the control message and response message data that is Frequency Shift Key modulated across the cable 129.” These excerpts makes clear that Woodhead’s IDU 122 performs analog signal processing, not “only digital signal processing with respect to said subscriber data signal,” as set forth in the claim. For at least these reasons, Applicant requests withdrawal of the rejection of record.

Claim 10 recites “wherein said second subscriber subsystem provides all analog processing of said subscriber data provided by said system.” The Examiner points to Woodhead, at col. 9 line 41 – col. 10 line 67, as satisfying this limitation. *See Current Action*, pg. 4. However, as discussed above with respect to independent claim 33 and dependent claim 6, Woodhead clearly describes analog processing performed by IDU 122. Therefore, Woodhead cannot satisfy this limitation. For at least these reasons, Applicant requests withdrawal of the rejection of record.

Claim 13 recites “wherein said second subscriber subsystem comprises a digital multiplexer.” The Examiner points to Woodhead, at col. 9 lines 53 - 63, as satisfying this limitation. *See Current Action*, pg. 4. At the Examiner’s citation, Woodhead describes multiplexer 170 as separating “signals carried on the cable 129.” However, as discussed above, the signals carried on cable 129 comprise analog signals. Moreover, Woodhead describes “the 140 MHz main signal is first routed through the multiplexer 170.” As such, Woodhead’s multiplexer 170 is not a “digital multiplexer” as set forth in the claims. For at least these reasons, Applicant requests withdrawal of the rejection of record.

Claim 47 recites “communicating a synchronous signal via said digital link to enable media access control to be provided by said first signal processing subscriber subsystem with respect to a physical link utilized by said second signal processing subscriber subsystem.” The Examiner points to Woodhead, at col. 9 lines 4 - 8, as satisfying this limitation. *See Current Action*, pg. 8. At the Examiner’s citation, Woodhead merely describes a reference signal to keeps its IDU and ODU in synch with one another. However, Woodhead is wholly silent as to, for example, enabling media access control, as set forth in the claim. For at least these reasons, Applicant requests withdrawal of the rejection of record.

## II. Rejections Under 35 U.S.C. 103(a)

In rejecting claims under 35 U.S.C. § 103, the Examiner bears the initial burden of establishing a prima facie case of obviousness. *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984). The Examiner can satisfy this burden by showing some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *KSR Int'l. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (2007) (citing *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006)). Only if this initial burden is met does the burden of coming forward with evidence or argument shift to the Applicant. *Piasecki*, 745 F.2d at 1472, 233 USPQ at 788. Thus, the Examiner must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the Examiner's conclusion. Moreover, to support an obviousness rejection, "[u]nder § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved." *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 15 - 17 (1966). As will be discussed, with regard to the rejections under 35 U.S.C. § 103(a), the Examiner has failed to show that the pending claims are obvious under the framework set out in *Graham*. That is, the Examiner has failed to ascertain the differences between the cited references and the pending claims. Therefore, Applicant requests that such rejections be withdrawn.

- A. Claims 2 and 38 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Woodhead in view of Van Lieshout.

Claim 2 depends from claim 1 and claim 38 depends from claim 33, respectively. As shown above, Woodhead does not satisfy every limitation of claims 1 and 33. Moreover, Van Lieshout is not relied upon to satisfy the missing limitations, nor does it do so. As such, these claims set forth limitations not satisfied by the Examiner's proposed combination. Therefore, Applicant requests withdrawal of the rejection of record.

- B. Claims 3 and 39 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Woodhead in view of Eyuboglu.

Claim 3 depends from claim 1 and claim 39 depends from claim 33, respectively. As shown above, Woodhead does not satisfy every limitation of claims 1 and 33. Moreover, Eyuboglu is not relied upon to satisfy the missing limitations, nor does it do so. As such, these claims set forth limitations not satisfied by the Examiner's proposed combination. Therefore, Applicant requests withdrawal of the rejection of record.

- C. Claims 4 and 40 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Woodhead in view of Marin.

Claim 4 depends from claim 1, and claim 40 depends from claim 33, respectively. As shown above, Woodhead does not satisfy every limitation of claims 1 and 33. Moreover, Marin is not relied upon to satisfy the missing limitations, nor does it do so. As such, these claims set forth limitations not satisfied by the Examiner's proposed combination. Therefore, Applicant requests withdrawal of the rejection of record.

- D. Claims 28-32 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Woodhead in view of Chauncey.

Claims 28-32 depend from claim 1 and inherit every limitation therefrom. As shown above, Woodhead does not satisfy every limitation of claim 1. Moreover, Chauncey is not relied upon to satisfy the missing limitation, nor does it do so. As such, these claims set forth limitations not satisfied by the Examiner's proposed combination. Therefore, Applicant requests withdrawal of the rejection of record.

- E. Claims 7, 8, 13, 62, and 63 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Woodhead in view of Dapper.

Claims 7, 8, 13, 62, and 63 inherit every limitation of the claims from which they depend. As shown above, Woodhead does not satisfy every limitation of independent claims 1 and 33. Moreover, Dapper is not relied upon to satisfy the missing limitations, nor does it do so. As



such, these claims set forth limitations not satisfied by the Examiner's proposed combination. Therefore, Applicant requests withdrawal of the rejection of record.

- F. Claims 9, 14, 34, and 45 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Woodhead in view of Zendle.

No Motivation to Modify Woodhead in view of Zendle

There is no motivation to modify Woodhead in view of Zendle, as suggested by the Examiner, because doing so would change the principle of operation of Woodhead. If the "suggested combination of references would require a substantial reconstruction and redesign of the element shown in [the primary reference] as well as change the basic principle under which the [primary reference] construction was designed to operate," there is no motivation to make such a modification. *In re Ratti*, 270 F.2d 810, 813 (CCPA 1959). In the case at hand, Woodhead describes that the only connection between its ODU and IDU is via cable 129, which is described as RG-6, i.e., coaxial cable. Modifying Woodhead to implement a fiber optic connection would require, in most cases, exchanging the IDU and ODU terminal electronics. In any case, doing so would require at least the addition of modular units to the existing equipment. Such an exchange or addition could not be achieved without considerable expense. The proposed modification to Woodhead's system would require reconfiguration, from the backhaul to the customer site, to account for newly formed bandwidth bottlenecks, and the like. In any case, manually testing the circuits at each customer location would be required to ensure proper functionality after the change. In view of the above, one of ordinary skill in the art would not be motivated to implement the Examiner's proposed modification. Therefore, Applicant requests that the rejection be withdrawn.

Failure to Satisfy Every Claim Limitation

Claims 7, 8, 13, 62, and 63 inherit every limitation of the claims from which they depend. As shown above, Woodhead does not satisfy every limitation of independent claims 1 and 33. Moreover, Zendle is not relied upon to satisfy the missing limitations, nor does it do so. As such, these claims set forth limitations not satisfied by the Examiner's proposed combination. Therefore, Applicant requests withdrawal of the rejection of record.

- G. Claims 17-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Woodhead in view of Cam.

Claims 17-20 depend from claim 1 and inherit every limitation therefrom. As shown above, Woodhead does not satisfy every limitation of claim 1. Moreover, Cam is not relied upon to satisfy the missing limitations, nor does it do so. As such, these claims set forth limitations not satisfied by the Examiner's proposed combination. Therefore, Applicant requests withdrawal of the rejection of record.

- H. Claim 21 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Woodhead in view of Cam and further in view of Barsheshet.

Claim 21 depends from claim 1 and inherits every limitation therefrom. As shown above, Woodhead does not satisfy every limitation of claim 1. Moreover, Barsheshet and Cam are not relied upon to satisfy the missing limitations, nor do they do so. As such, these claims set forth limitations not satisfied by the Examiner's proposed combination. Therefore, Applicant requests withdrawal of the rejection of record.

- I. Claims 23-27 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Woodhead in view of Schilling.

Claims 23-27 depend from claim 1 and inherit every limitation therefrom. As shown above, Woodhead does not satisfy every limitation of claim 1. Moreover, Schilling is not relied upon to satisfy the missing limitations, nor does it do so. As such, these claims set forth limitations not satisfied by the Examiner's proposed combination. Therefore, Applicant requests withdrawal of the rejection of record.

- J. Claims 41 and 46 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Woodhead in view of Barsheshet.

Claims 41 and 46 are depend from claim 33 and inherit every limitation therefrom. As shown above, Woodhead does not satisfy every limitation of claim 33. Moreover, Barsheshet is not relied upon to satisfy the missing limitations, nor does it do so. As such, these claims set


forth limitations not satisfied by the Examiner's proposed combination. Therefore, Applicant requests withdrawal of the rejection of record.

### III. Conclusion

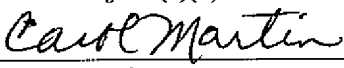
In view of the above, Applicant believes the pending application is in condition for allowance. Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 06-2380, under Order No. 68144/P007US/10501224 from which the undersigned is authorized to draw.

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By:   
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